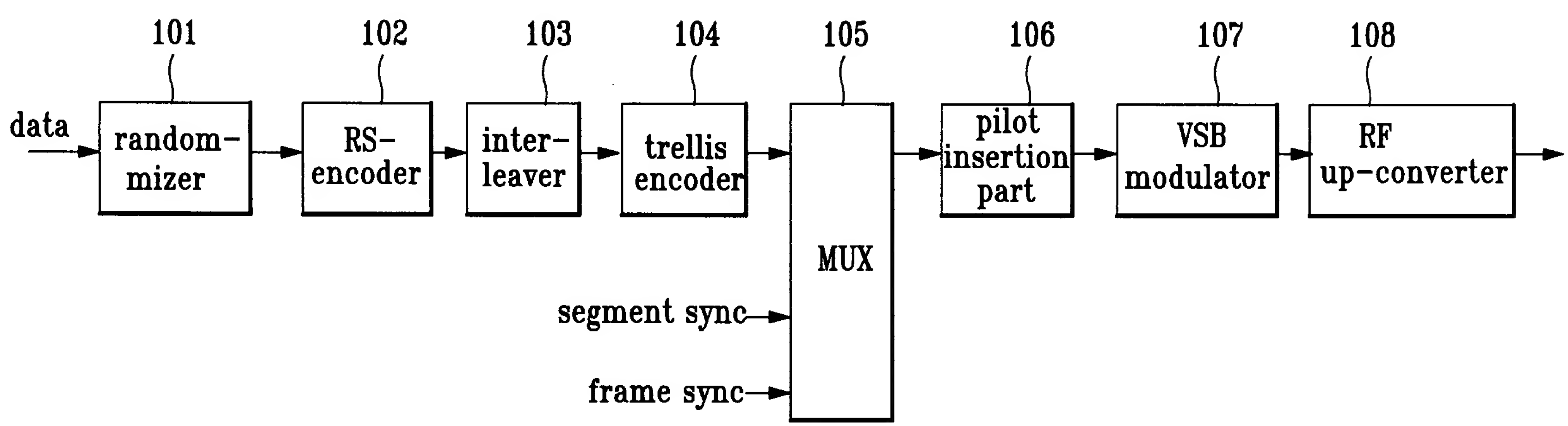


FIG.1
related art

FIG.2a
related art

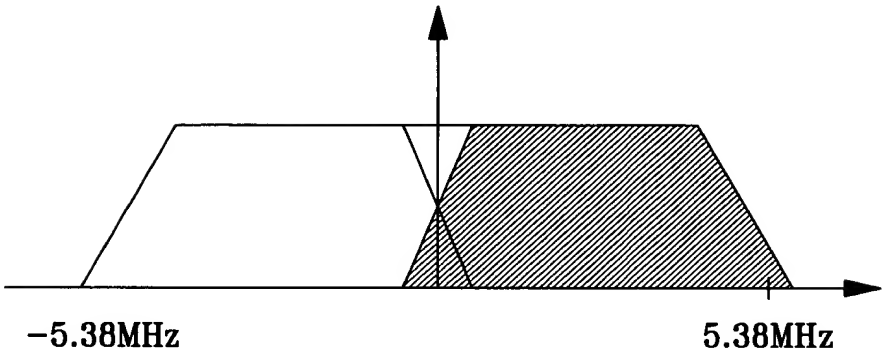


FIG.2b
related art

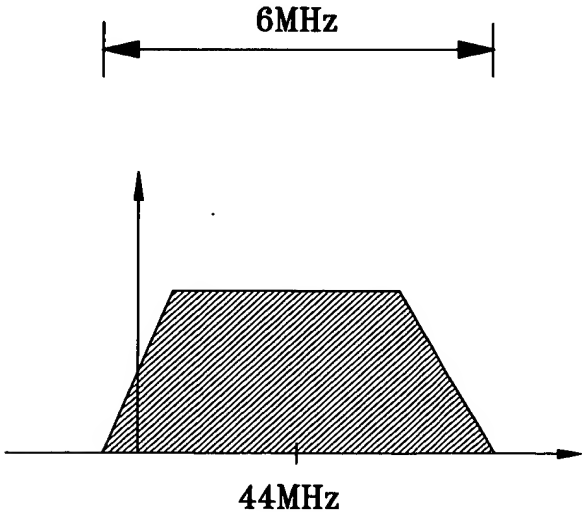


FIG.3
related art

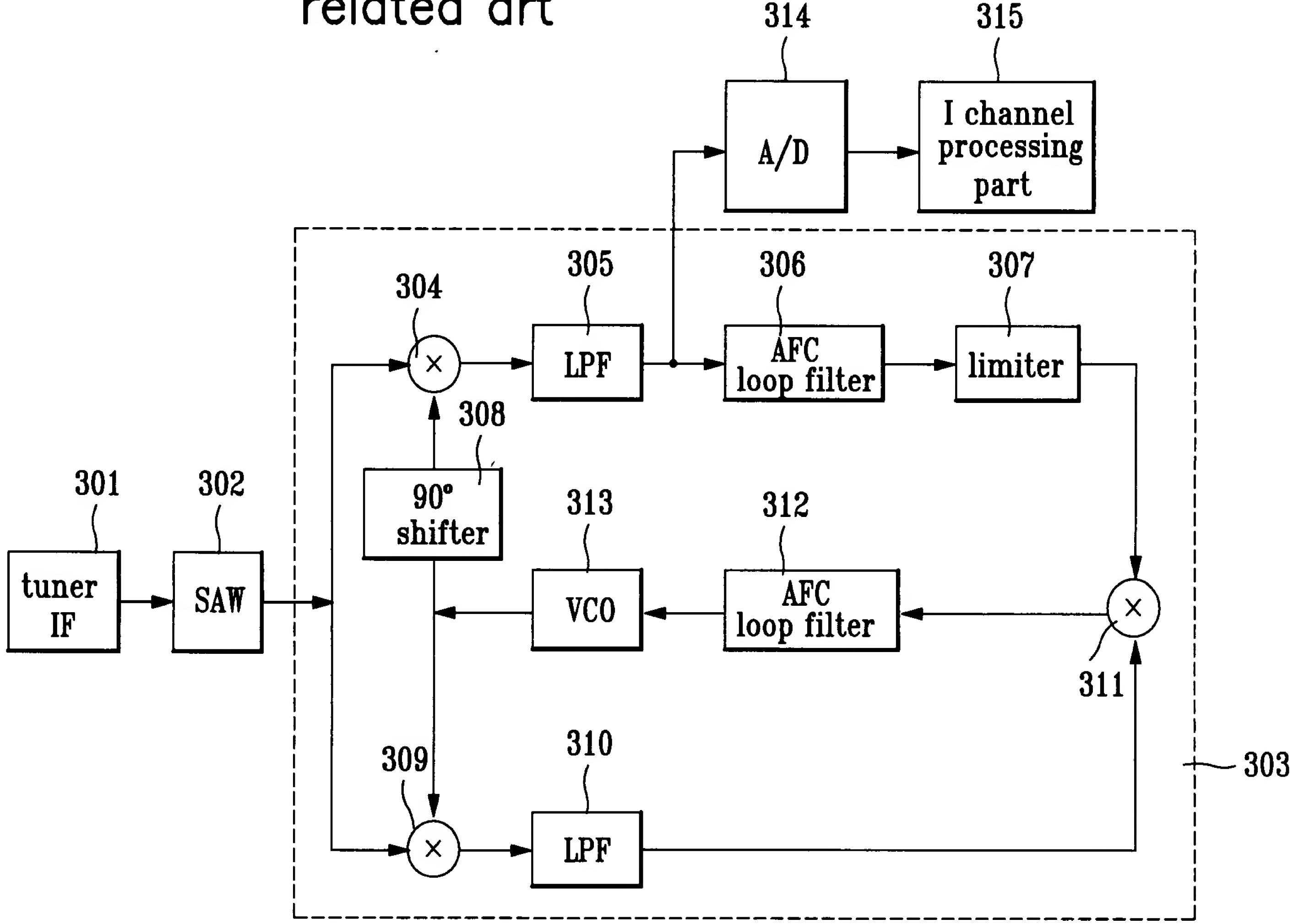
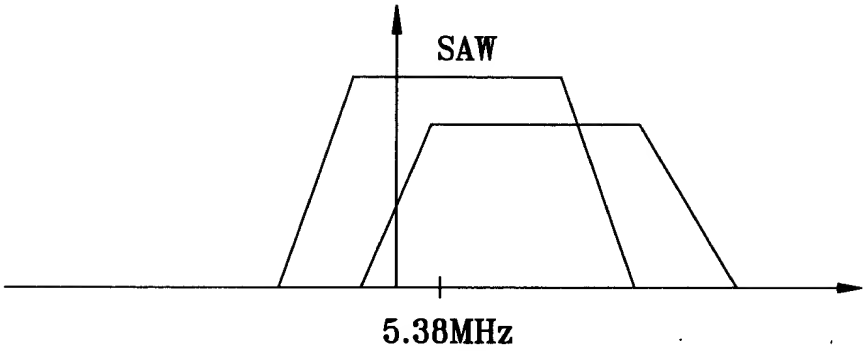
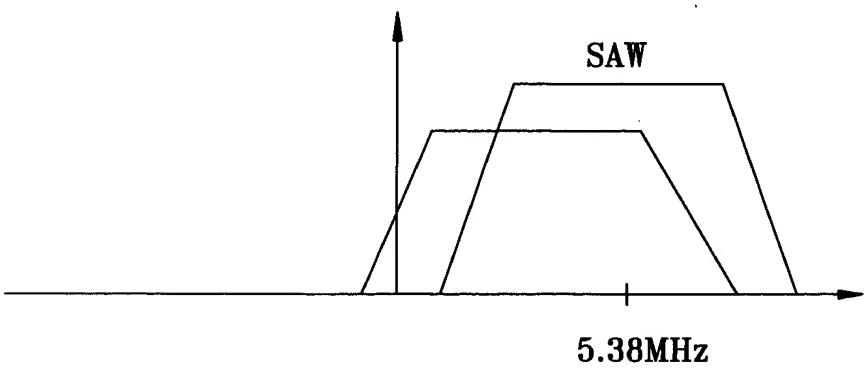


FIG.4a
related art



positive offset

FIG.4b
related art



negative offset

FIG.5
related art

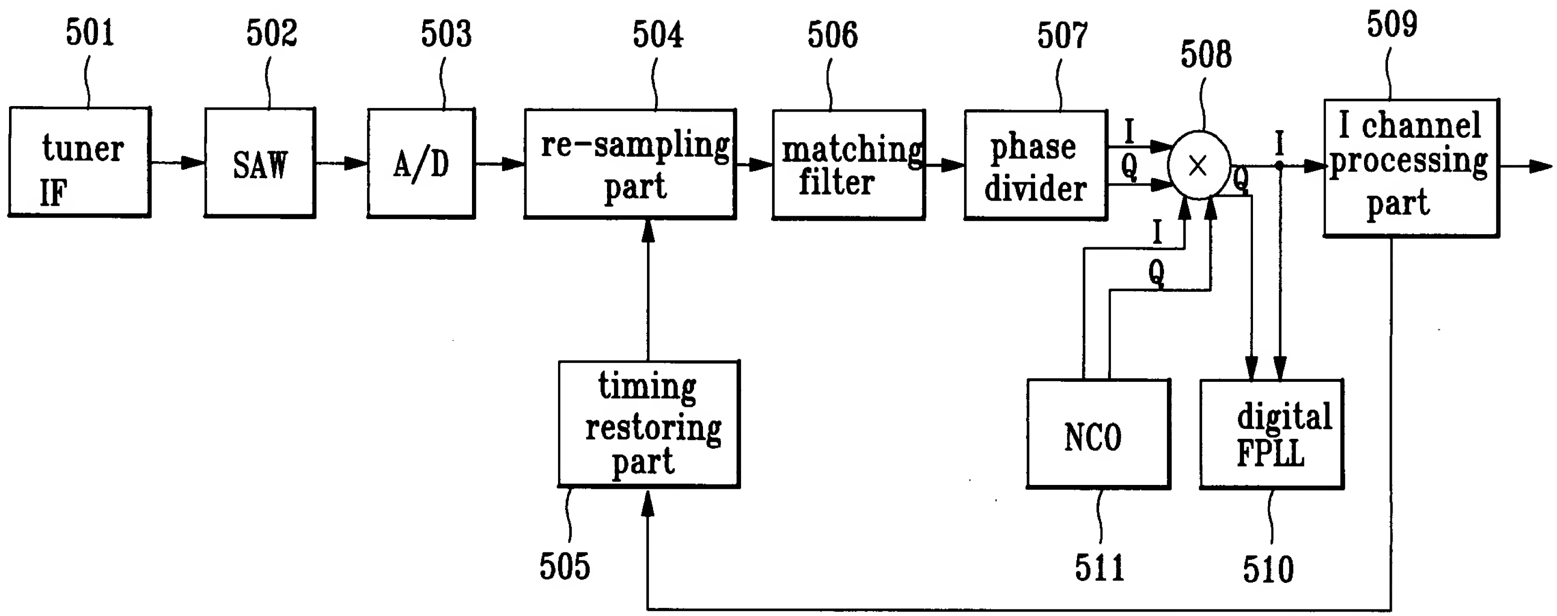


FIG.6

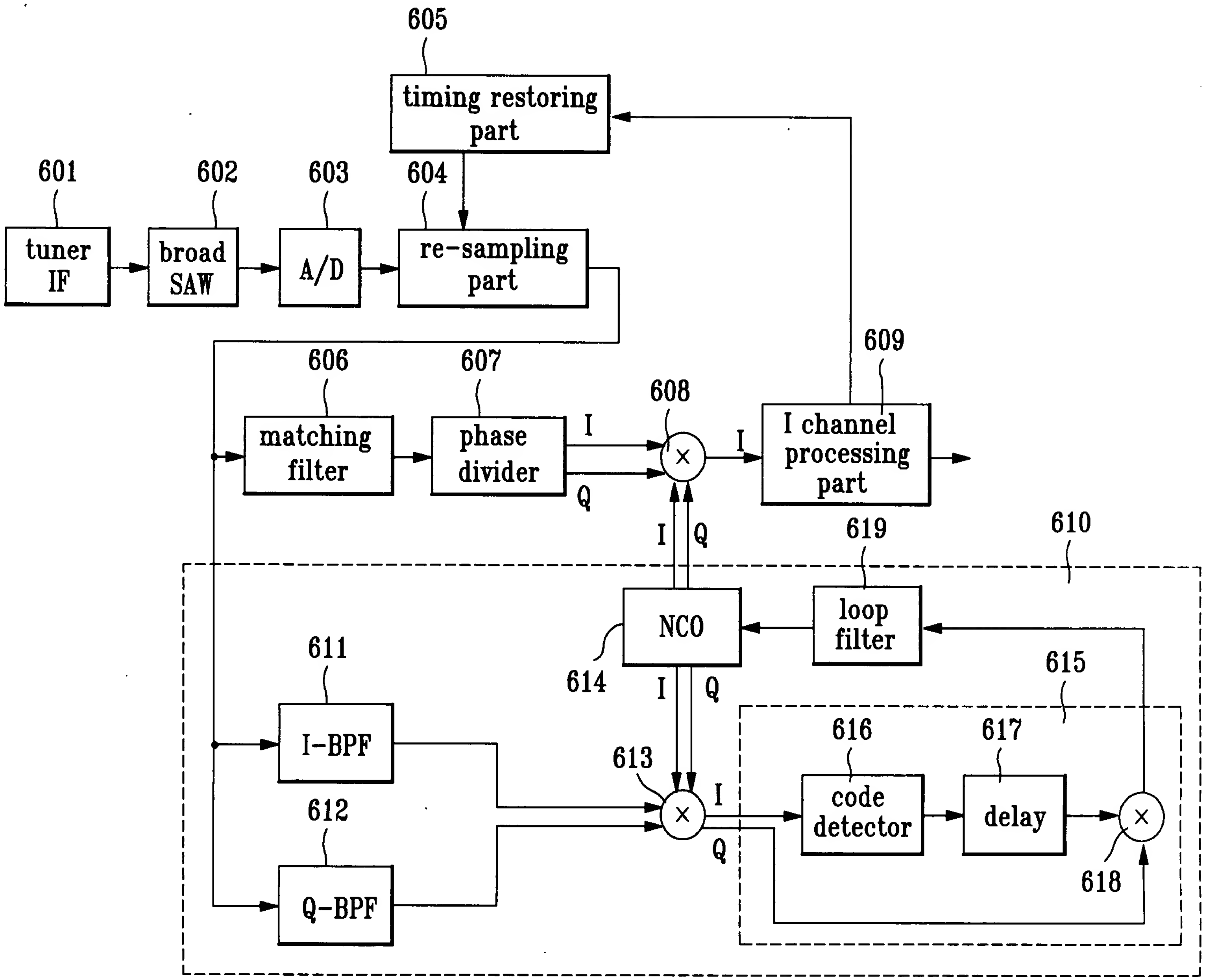
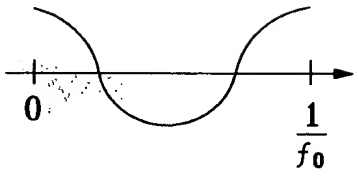
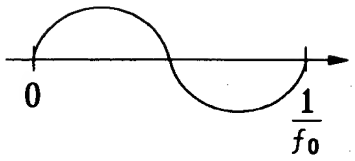

605
timing restoring part
601
tuner IF
602
broad SAW
603
A/D
604
re-sampling part
606
matching filter
607
phase divider
I
Q
608
I
609
I channel processing part
I
Q
619
loop filter
610
614
NCO
I
Q
615
611
I-BPF
612
Q-BPF
613
I
Q
616
code detector
617
delay
618

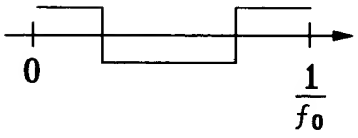
FIG.7



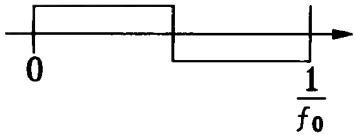
(a)component I



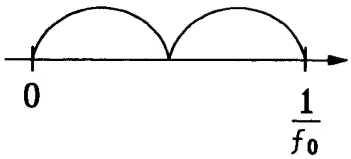
(b)component Q



(c)code value of component I



(d)code value of delayed component I



(e)code value of delayed phase component I * component Q

FIG.8

(a)component I (b)component Q

FIG.9